Colorado Department of Health

Hazardous Materials & Waste Management Division

and

U. S. Environmental Protection Agency

Comments

on

Draft Final

TECHNICAL MEMORANDUM NO. 2

FOR

PHASE I RFI/RI of OU-7

HUMAN HEALTH RISK ASSESSMENT MODEL DESCRIPTION

February 11, 1993

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1) Section 1.1 The statement on page 1-2 that "This document does not address the application of the selected models to the site-specific conditions at OU7..." should be clarified. This document should clearly show that the chosen models are capable of dealing with site-specific conditions and that they generate data necessary to support the decision process. If not, these models should not be used and the scope of Technical Memorandum #2 (TM2) should be re-examined.

2) Section 1.2 The speculation on future uses for Rocky Flats Plant (RFP) contained in the last three paragraphs of this section on page 1-4 are probably better left till later discussions of land use. For instance, the speech by the **former** Secretary of Energy is already mentioned in Section 1.10 on page 1-29.

3) Section 1.3.1 The calculations for volume of material in the landfill are through 1990 only. A more current estimate should be calculated.

4) Section 1.10 The DOE 1990 reference cited throughout this section of the document uses 1980 census data. Using this outdated information to support a projection of zero population growth in the area immediately adjacent to RFP is highly suspect given the change in plant mission.

This section repeatedly emphasizes commercial/industrial land uses or an ecological preserve as the preferred alternatives for RFP. These are, however, only two of the choices available. Industrial land-use has not and probably will not "dominate" future land-use in northeastern Jefferson county, particularly given the plant mission change and the pace of residential development in the area.

In light of potential policy changes by the new administration and new Energy Secretary, paraphrasing the former Energy Secretary on page 1-29 should be reconsidered. Issues raised in this section should be clarified by knowledgeable DOE sources. This information should not be coming from the cited sources (*Denver Post, Boulder Daily Camera,* RFLII).

5) Section 2.0 In the comments on Technical Memorandum No. 1, consideration of additional receptors was recommended. These receptors include current on-site ecological researcher/environmental worker, current off-site agricultural land use, future on-site construction worker, future off-site resident, and future agricultural land use. These additions will affect text in this section as well as Figures 2.1, 2.2, 2.3, 2.4 and Table 2-1.

6) Section 3.1 Explanations of the model selection process should verify that the selected models are the best of the available choices and that they are able to handle all anticipated contaminants. Do the selected models characterize the transport of certain types of chemicals better than others?

This section never clearly states how the selected models will be calibrated. Calibration is necessary for past, current, and future site representations and process descriptions in support of risk assessments and feasibility studies.

7) Section 3.2.1 Site-specific data should provide most or all of the values used in any modelling. If default values must be used, they must be justified by demonstrating their applicability to OU 7.

If the lag time is found to be on the order of several years, it is probably not negligible and should be incorporated into the model.

Precise differentiation into year-specific submasses, as suggested for the Scholl Canyon model, may not be possible. Aerial photos and CPT data may provide some guidance for establishing time lines if necessary.

Units should be included with the explanation of terms for the modified Darcy's Law equation on page 3-4.

8) Section 3.3 The statement that "no gas-generating landfill refuse is present at the subsurface" at IHSS 203 may need to be re-assessed in light of CPT profiles.

9) Section 3.3.1 The SEAM model appears to assume homogenous soil without accounting for potential preferred pathways. Is this assumption reasonable for OU 7?

10) Section 3.3.2 The final sentence under Selection Criteria 1 does not seem to logically follow from the previous sentences. Surface VOC emissions should be expected to represent only the relatively shallow areas. Since contaminants from deeper soil and groundwater contribute very little to surface emissions, they are therefore unrepresented by them.

The final sentence under Selection Criteria 2, which ends with "will not be used in landfill concentrations", is unclear.

11) Section 3.4 The Fugitive Dust Model (FDM) has been validated by EPA for area sources emitting fugitive particulates. While there has not yet been any validation for vapors, wind tunnel studies have been conducted to compare with model results. If the vapors emitted are found to be much lighter than air and the particle size is set at very small numbers or at zero, the model should be acceptable for use in this case. Should vapor emissions be a gas denser than air, the FDM would not be an acceptable model to use.

The last paragraph in this section, on page 3-8, refers to the conventional box model. This model should be described or at least referenced, and its use justified.

12) Section 3.5 The first paragraph in this section refers to Phase II RFI/RI data. This data will not be available until some time after the Phase I Human Health Risk Assessment is due.

13) Table 3-1 The first parameter should be more specific by stating, "Surface Area of IHSS **114**".

Broad ranges of values are associated with the second and third parameters with EPA publications are referenced as the source. Won't site-specific Phase I RFI/RI data be used to generated these values?

The date listed for "time since landfill closure/ emplacement of interim soil cover", 1992, should be replaced with a best estimate date of closure. The Statement of Work in the IAG lists July 1997 as the beginning of IM/IRA construction.

14) Table 3-2 The SEAM model equation requires values for physical properties of the soil cover (thickness, porosity, intrinsic permeability). This table mentions "data obtained during Phase I RFI/RI" and "RFP OU-specific data", yet neither the OU 7 work plan nor the SOPs it references specifically require these soil parameters. Explain what values will be used for this equation.

15) Table 3-3 If vapors are considered (see Comment 11), the range of values for particle size could start at 0.

It is unclear how a range of values was derived for the as yet undetermined contaminated area.